

## REMARKS

### I. Status of case

Claims 1-28 are currently pending in this case. Claims 1, 4, 7, 9, 10, and 23 are independent claims.

### II. Interview

Applicants wish to thank the Examiner and her supervisor for the courtesy of an interview. During the interview, the Examiner and Applicants' attorneys discussed the outstanding rejections of the claims. The specific matters discussed during the interview are addressed in the Remarks below.

### III. Claim Rejections under 35 USC §§102, 103

Claims 1-8 and 10-13 were rejected under 35 U.S.C. §102(a) as being anticipated by PCT Publication No. WO 02/29427 (Nguyen). Claims 9 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nguyen in view of U.S. Patent No. 7,454,516 (Weinert).

#### **A. Claim 1:**

Claim 1 recites several limitations that are patentably distinct from the Nguyen reference.

##### **1. "Node Function Controlling Unit"**

Claim 1 recites the following:

**a node function location controlling unit, in response to an instruction of relocation, analyzing current available node resource based on the statuses of the node resources managed by the resource managing unit, determining at least one new node location of at least one node function, and relocating the at least one node function at the at least one new node location, wherein the relocating of the at least one node function at least one new node location comprises changing programming of the at least one new node location with the at least one node function**

Emphasis added. In rejecting claim 1, the Office Action states that the Nguyen reference teaches the node function location controlling unit. The Office Action reasons as follows:

Assume there are 3 demands 1, 2, 3 between Node A and Node E. Also assume that these demands are being routed as follows: Before Reroute: Demand 1 uses path A-C-E. Demand 2 uses path A-C-D-E. Demand 3 uses path A-B-D-E. Suppose there is [a] congestion on arc AC. Now let us assume that the routing solution is determine[d] to be as follows: Demand 1 uses path A-C-E. Demand 2 uses path A-B-D-E. Demand 3 uses path A-B-C-D-E. The difference between the solution reroute and the original routing

shows two changes, that in associated with Demand 2 and Demand 3. The next step is to determine which of the two changes need to happen first. Therefore it is more efficient and produces less network impact on the network if Demand 3 is rerouted first to path A-B-C-D-E. Following Demand 2 can be rerouted to path A-B-D-E. Configuration process makes the change to the elements in Network, to affect the routing of various demands in Network - see Nguyen, page 21, line 9 -page 26, line 19).

The examiner points out that Nguyen teaches reassignment of node functions (Node 6 might not have the resources to serve all three demands at the same time, thereby creating Congestion. Upon recognizing this Congestion the servers may create Reroute to reroute some or all Traffic to avoid Node 6 to Node 12 -see Nguyen, page 15, lines 6-10) in response to an instruction of relocation (*If one or more errors or congestion events are detected*, Data Collection records such detections in Data Store. Following such a detection, a messaging step is performed which sends an activation message to Analysis Engine) and in which the current available node resource is analyzed based on statuses of node resources (Servers can then evaluate, following Demand 1 utilizing Reroute, which is the “best route,” the prior route or Reroute. If Reroute is still the best route then Demand 3 is rerouted to Reroute. However, if the prior route is the “best route” again, following Demand 1 utilizing Reroute, then Demand 3 utilizes the prior route -see Nguyen, page 16, line 22 -page 17, line 5).

Thus, according to the hypothetical posed by the Examiner, a particular node (such as node 6) does not have the resources to handle all the demands asked of it. Upon recognizing this, the Office Action states that the Nguyen reference teaches the following solution – “reroute some or all Traffic to avoid Node 6 to Node 12”. Thus, according to the Office Action, in order to solve the congestion problem, the Nguyen reference teaches rerouting traffic.

Claim 1 takes a different approach to solving the congestion problem. Unlike the Nguyen reference (which solves the problem simply by rerouting), claim 1 recites “determining at least one new node location of at least one node function, and relocating the at least one node function at the at least one new node location”. Specifically, a node’s functions are changed – namely by “relocating” of the node functions to the new node by “changing programming of the at least one new node location with the at least one node function”. In this way, the functions that a node has are changed. This is an entirely different way to solve the congestion problem. Taking the example proffered by the Examiner, instead of avoiding node 6 (by “avoiding” node 6 as the Office Action correctly interprets the Nguyen reference), claim 1 recites relocating functions at a node – such as providing additional functionality at node 6 so that node 6 can handle the traffic. In other words, the approach that claim 1 recites – in terms of supplementing the functionality of a node – is entirely different from the approach taught in Nguyen. For at least this reason, claim 1 is patentable over the art of record.

## 2. “Adaptive Control Determining Unit”

Claim 1 further recites:

an adaptive control determining unit configured to determine whether to transmit said instruction of relocation to said node function location controlling unit, configured to determine whether to transmit said instruction of restructuring to said path structure controlling unit, and configured to determine whether to transmit both said instruction of relocation to said node function location controlling unit and said instruction of restructuring to said path structure controlling unit

In rejecting claim 1, the Office Action states that the Nguyen reference teaches the node function location controlling unit, reasoning as follows:

The examiner reads the limitation as the determining unit determines whether to transmit *either of* said instruction of relocation to said node function location controlling unit *or* said instruction of restructuring to said path structure controlling unit. Because of the "or" in this limitation, the examiner is only required to find one of the limitations presented on either side of the "or" in order to meet the requirements for the rejection of this limitation.

Thus, the examiner respectfully submits that Nguyen teaches an adaptive control determining unit for determining whether or not it is necessary to transmit *either* or both *of* said instruction of relocation to said node function location controlling unit and said instruction of restructuring to said path structure controlling unit (Analysis Engine retrieves data necessary for analysis from Data Store).

Applicants respectfully disagree for two reasons. Contrary to what the Examiner believes, claim 1 as previously presented did not simply require “either of” said instruction of relocation to said node function location controlling unit *or* said instruction of restructuring to said path structure controlling unit. Rather, claim 1 recites “either or both”. The Examiner has completely ignored “or both” in the claim. Therefore, the Examiner’s contention that “the examiner is only required to find one of the limitations presented on either side of the ‘or’ in order to meet the requirements for the rejection of this limitation” is both factually and legally incorrect. Regardless, Applicants amend the limitation. The amendment is commensurate with the scope as previously presented.

### B. Claim 4:

Claim 4 recites “a node function location controlling unit” for “determining at least one new node location of at least one node function, and relocating the at least one node function at the at least one new node location” and “an adaptive control determining unit”. As discussed above, the Nguyen reference fails to teach or suggest these limitations. For at least these reasons, claim 4 and the claims that depend thereon are patentable over the cited art.

**C. Claim 7:**

Claim 7 recites:

a lock control requesting unit which transmits, when said instruction of relocation or said instruction of restructuring is transmitted and a certain resource is controlled by said network structure controlling device, a request for a lock control for avoiding said certain resource being controlled by another network structure controlling device, to a resource managing device for managing resources in said network

See also claim 11. Claim 7 was rejected as anticipated by the Nguyen reference. In its reasoning, the Office Action states that “Claims 4-8 do not teach or define any new limitations above claims 1 and 9-12 and therefore are rejected for similar reasons.” However, as acknowledged in the Office Action with respect to claim 9, the Nguyen reference fails to teach or suggest locking control. For this reason alone, Applicants request the rejection of claim 7 be withdrawn.

**D. Claim 9:**

Claim 9 recites the following:

a lock controlling unit . . . for locking control of a certain resource **thereby preventing the network structure controlling device from relocating functions of the certain resource and from restructuring of the paths related to the certain resource**

The Office Action rejects claim 9 based on a combination of the Nguyen and Weinert references. The Office Action acknowledges that the Nguyen reference fails to teach any locking function, instead relying on the Weinert reference. Specifically, the Office Action relies on the following excerpt from Weinert:

The virtual partition table 532 might also include a locking mechanism to allow portions of the table (or the entire table) to be locked when the table is modified. For example, if resources on resource servers are repartitioned, the table might indicate that writes are not permitted to resources about to be relocated during repartitioning. Or, resources might be temporarily made unavailable while a malfunctioning server is replaced.

Col. 10, line 62 – col. 11, line 2. As discussed above, the Nguyen reference fails to teach or suggest “relocating” functions. Similarly, the Weinert reference does not teach or suggest any type of relocating of functions. And, the Weinert reference fails to teach or suggest “preventing . . . relocating of the certain resource **and** restructuring of the paths to the certain resource”. In other words, claim 9 requires that the network structure controlling device is prevented from relocating functions of and from restructuring paths related to the same “certain resource”. This is not taught or suggested in the Nguyen reference, in the Weinert reference, or in the combination thereof. For at least these reasons, claim 9 and claims that depend thereon are patentable over the cited art.

**E. Claim 10:**

Claim 10 recites the following:

an adaptive control determining step for a network structure controlling device in said communication network system to determine whether it is necessary to relocate functions and data for the functions of said service controlling device or of said data transferring device

As discussed above, the Nguyen reference fails to teach or suggest the relocating of functions as recited above. For at least this reason, claim 10 and the claims that depend thereon are patentable over the cited art.

**F. Claim 23:**

Claim 23 recites a network configuration managing device that recites the following:

“a node function location controlling unit that . . . determines a first device constituting the network whose data for providing a node function is to be transferred and a second device constituting the network that receives the data for providing a node function from the first device”;

“a link configuration controlling unit that . . . determines a new communication path to be formed in the network”; and

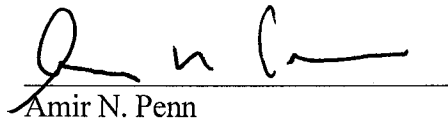
“wherein determination of at least one of the new communication path or the first and second devices is dependent on determination of the other of the first and second devices or the new communication path.”

Thus, the determination of at least one of the new communication path (as determined by the link configuration controlling unit) or the first and second devices (as determined by the node function location controlling unit) is dependent on the other. For example, the determination of the first and second device for relocating functions is determined based on a provisional or interim determination of the new communication path. See claim 24. An example of this is discussed in the present application at paragraph [00108]. As another example, the determination of the new communication path is determined based on a provisional or interim determination of the first and second devices. See claim 26. An example of this is discussed in the present application at paragraph [00111]. This dependence of the determination is not taught or suggested in the references of record. For at least this reason, new claim 23 is patentable over the cited art.

**SUMMARY**

If any questions arise or issues remain, the Examiner is invited to contact the undersigned at the number listed below in order to expedite disposition of this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Amir N. Penn', is written over a horizontal line.

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